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SPENCER CREEK PWA AREA
RANGELAND HEALTH STANDARDS ASSESSMENT
KLAMATH FALLS RESOURCE AREA - KLAMATH FALLS, OREGON

Introduction

The Spencer Creek Pilot Watershed Analysis (SCPWA) area is comprised of three livestock grazing allotments - major portions of the Buck Lake (0104) and Grub Spring (0147) allotments, and a small portion of the Buck Mountain (0103) allotment. (See attached maps for locations.) The 1994 Northwest Forest Plan (NFP) required the completion of watershed analysis reports for all watersheds within the scope of that Plan; an area which includes those portions of the Klamath Falls Resource Area (KFRA) west of highway 97 in southwestern Klamath County. Spencer Creek was one of the first of the watershed analyses to be required under the NFP - thus the "pilot" designation. In August of 1995, the SCPWA was completed and was designed to accomplish the following (quoted out of that plan, p. 1-3):

> *The Spencer Creek Watershed Analysis presents an ecosystem analysis at the watershed scale. It describes the current understanding of the processes and interactions of concern occurring within the Spencer Creek watershed. The analysis looked at the entire watershed regardless of ownership so that a more complete understanding of the watershed could be achieved. It is intended to guide management on the federal lands within the watershed. It is also meant to help us understand how past land use activities interact with the physical and biological environment in the watershed. This analysis provides a logical way to learn more about how ecological systems function within the watershed. This information is essential to protect and sustain the natural systems that society depends upon. The analysis provide a vehicle to efficiently identify and balance multiple concerns. The analysis provides a summary of trends for resources where restoration actions are needed.*

Since the SCPWA was based on the dimensions of a watershed - Spencer Creek - the SCPWA does not follow the precise boundaries of the any of the allotments; boundaries which are based on a mix of topography, political boundaries, land ownership patterns, and/or area specific historic events. However, the SCPWA functioned as an allotment evaluation equivalent for the Buck Lake and Grub Spring allotments, including some portions lying outside of the watershed boundary. A large portion of the Buck Lake allotment is included within the Jenny Creek watershed and was briefly discussed in the Jenny Creek Pilot Watershed Analysis (JCPWA - which will be referenced as necessary). However, the JCPWA grazing information for Buck Lake was collected from the KFRA staff and files and is less specific than the information

presented in the SCPWA. In addition, it performed little pertinent analysis in regards to grazing in this area, and subsequently offered no specific recommendations. Thus, the JCPWA will be minimally referenced in this assessment.

This Rangeland Health Standards Assessment will assess the current BLM licensed grazing management against the 5 Standards for Rangeland Health for the aforementioned Buck Lake and Grub Spring allotments, as well as the Long Lake (0142) allotment.

The Long Lake allotment is located northeast and outside of the Spencer Creek watershed. It is an isolated BLM administered parcel of land (approx. 363 acres), within the bottom of Long Lake, completely surrounded by private lands with no public access. It will be addressed in this assessment due to proximity. The Buck Mountain allotment, though partially within the Spencer Creek watershed, will be addressed in an assessment to be done later in 2000. (As a side note, all three of these allotments were originally part of the Medford BLM district. During a reorganization of the KFRA in 1988, these allotments were transferred to KFRA administration just after the 1988 grazing season.)

Current BLM policy direction is to primarily address grazing use as it relates to the 5 Standards for Rangeland Health (W.O.I.M. #98-91 and I.B. #OR-98-315). If one or more of the Standards are not met and the cause is <u>not</u> grazing, solutions may be pursued through non-range related remedies. Although non-grazing causes may be identified if known, proposing non-range remedies is beyond the policy defined scope of Rangeland Health Standards assessments.

This assessment will begin with a brief overview of each of the 3 allotments. Following that will be a Standard specific review of the pertinent information, by allotment for each of the 5 Standards. References to and quotes from the SCPWA (and some other documents) will be made as appropriate, since the SCPWA forms the primary basis for this assessment. However, the SCPWA is a very large, in depth document, and this assessment will only briefly summarize or condense some of the appropriate major points and/or conclusions. At the end of the assessment, a "call" will be made on whether the overall Standards are met (or significant progress is being made towards meeting) or not being met. If not met, appropriate grazing management changes would be proposed to move the management towards meeting the Standards. Reference the SCPWA, or other noted documents, for more comprehensive information on the grazing, vegetation, and other resource uses and conditions for this area.

Please note that the SCPWA addressed the entire watershed regardless of ownership. The 54,160 acres within the Spencer Creek watershed is comprised of 44% private lands, 40% National Forest lands, and only 16% BLM administered lands. The neighboring JCPWA and Topsy-Pokegama Landscape Analysis area (TPLA), both of which touch portions of the two main allotments to be assessed here, have roughly similar acreage breakdowns, with BLM administered lands being a minority percentage

of the whole. This assessment - its analysis and recommendations - is only directed towards the management of BLM lands where we have the authority and ability to effect change if needed.

Buck Lake (0104)

This allotment is located immediately around the Buck Lake private lands, west to Surveyor Campground, and over the divide southwest into the upper headwaters of Johnson Creek - a tributary to Jenny Creek. This allotments northern boundary is the USFS/BLM line and the western boundary is the Klamath/Jackson County line. Approximately 55% of the BLM administered lands are inside the SCPWA, with 45% in the adjacent Jenny Creek watershed. (See attached Buck Lake allotment map.)

There are two grazing lessees on this allotment. One is Charley Livestock Co., who graze cattle on the central and western portions of the allotment near Buck Lake (which is owned by Charley Livestock). Their BLM grazing lease allows for 57 cattle from 6/15 to 9/15 (175 active AUMs). The other lessee is Scott & Lori Johnston, who graze livestock on the Johnson Creek (southwest) side of the allotment. Their BLM grazing lease allows for 30 head from 7/1 to 10/15 each year (105 AUMs). Field checks of the Johnson Creek portion of this allotment show little if any use by Johnston cattle. Apparently, their cattle rarely make it above the private lands lower down on Johnson Creek and out of the Buck Lake allotment.

The Spencer Creek side of this allotment has been involved in a active Coordinated Resource Management Plan (CRMP) for many years, with the primary goal improvement of the water (quantity and quality) coming into Spencer Creek - an important redband trout spawning creek (see Grub Spring below). The grazing areas around Buck Lake are a mix of BLM and private lands, with the rest - and majority - of the allotment mostly “blocked up” BLM administered lands (i.e. little intermingled private). Most of these BLM lands (Surveyor Mountain, Kent Peak, and Old Baldy) are timbered areas with limited forage, moderate to steep slopes, and receive little if any grazing use.

Utilization checks have shown that virtually all of the grazing use on the Buck Lake allotment takes place in a couple limited areas. The majority is within about 1 -1 ½ miles of the outside perimeter of the Buck Lake private lands on a mix of BLM administered lands and privately leased timber lands. The remainder of the use occurs in the extreme upper end of the Johnson Creek drainage, just outside the Surveyor Campground/RNA fence, also a mix of public and private lands.

Grub Spring (0147)

The Grub Spring allotment is located in the Spencer Creek watershed between the mouth of the creek, upstream to about 1 ½ miles below Buck Lake. (See map) Approximately 90% of the BLM administered lands in this allotment are inside the

Spencer Creek watershed, with the remainder in the Topsy-Pokegama Landscape Analysis area (TPLA). However, the allotment itself is only 9.2% BLM lands (3,524 acres); the remaining 90%+ (34,620 acres) are private lands primarily owned and leased for grazing use by U.S. Timberlands, Inc. (UST), recent successor to the Weyerhaeuser Co. in this area. The grazing lessee for the BLM and UST is Lester Hinton, with the UST lands being the recognized base property for the BLM lease. The season of use is 5/1 to 9/15 with 176 cattle - 26 head for the BLM lands (130 AUMs) and 150 for the UST lands as specified in their grazing lease and allowed under an exchange-of-use.

Utilization checks of this allotment have shown that most of the grazing use occurs on the UST leased lands, primarily in the vicinity of Clover Creek, along the Clover Creek Road, down to the mouth of Spencer Creek. On BLM administered lands, the only significant use areas are near Spencer Creek - just above the Hook-up Road - and the BLM parcel north of Grub Spring. Both these areas have consistently shown appropriate utilization levels (discussed later).

This allotment makes up a large percentage of the area covered by the Spencer Creek CRMP. This plan was originated in 1990, revised in 1994, and included the grazing lessee and WEYCO/UST representatives as members of the working group, as well as an array of federal, state, and local government officials. The plan includes a long list of objectives and goals covering a broad array of resource values and uses, though the primary impetus for the CRMP was the conditions of Spencer Creek as affected by watershed activities. Reference the CRMP for more information.

(See pages 4-8 to 4-12 and 4-63 to 4-74, of the SCPWA, for much more information - past and present - on the Buck Lake and Grub Spring allotments.)

Long Lake (0142)

This isolated 363 acre parcel of BLM administered land, lies within Long Lake - a seasonally wet meadow that is surrounded by privately owned lands and is distant from the nearest BLM lands (see Grub Spring map). It is unfenced from the private lands and is grazed in conjunction with those adjacent private lands owned by the lessee James Creswell (to the north and south) and UST (to the east and west). The BLM grazing lease is for 5 head for the period 6/16 to 9/30 (18 AUMs).

Little is known about this allotment due to its inaccessibility and low priority for attention. What little information there is dates back to 1987 or earlier. However, it appears in reviewing the files that the allotment area - including the larger private meadow areas - has been grazed with more cattle (15-30 head) for a shorter period of time (July and August) than the lease states. This is not an administration problem as the BLM lease and yearly license recognizes the intermingled and unfenced nature of the allotment, with private lands being the majority of the potential grazing area.

Note to readers:

Some of the information discussed under one Standard could be - and sometimes is - discussed under one (or more) of the other Standards. This is due to extensive crossover between the 5 Standards and the SCPWA "Issues" noted throughout the following discussion. An attempt has been make to properly stratify the discussion in an intuitively satisfying manner; however, that was not always possible or practical.

In addition, the brief description of the Standard in bold, is quoted from the approved "Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington - August 12, 1997". This assessment process is also in accordance with that direction and other related policy guidance.

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STANDARD 1 - WATERSHED FUNCTION - UPLANDS (Upland soils exhibit infiltration and permeability rates, moisture storage and stability that are appropriate to soil, climate and land form.)

> *Though this Standard is currently not being totally met, BLM management (grazing and non-grazing management) is making significant progress toward meeting it on the public portions of the Buck Lake and Grub Spring allotments. BLM licensed livestock use is not considered a significant factor. This Standard is not applicable to the Long Lake allotment as it has no upland areas (and is not discussed further under this standard).*

The SCPWA was driven by a set of 16 issues, with related "key questions". Several of these issues addressed the Standard of upland functionality to some degree; they are as follows (SCPWA, page 4-3 - using that documents numbers):

Issue 2: Forage utilization patterns in the watershed are uneven.
Issue 5: Forest/Range ecosystem health and resiliency has been altered in the watershed area.
Issue 9: The density of roads in the watershed is negatively affecting wildlife.
Issue 10: Late successional forest in the watershed has been fragmented and reduced in size through harvest.
Issue 16: Management practices have altered habitat conditions and caused changes in species assemblages, connectivity, and distribution.

Of the above issues, Issue 2 and Issue 5 are the most pertinent to the Standard of upland functionality; the others are related but more fully addressed by the other Standards. The SCPWA contained extensive discussions on past conditions and

disturbance sources, described current conditions, and analyzed all this data relative to desired landscape/watershed conditions. This process culminated in an array of management recommendations to "fix" the problems described by the 16 issue statements. A full reiteration of the information is not necessary (or possible) in this assessment; the SCPWA can be referenced for more information. However, a brief summary is useful and follows. A summary of the management recommendations are found at the end of the assessment.

The overarching issue within the watershed is that vegetation and soil conditions have been altered enough during historic times, that the watershed is not functioning as it should or used to. This is largely evidenced by the substandard aquatic conditions in all of the major creeks in the Spencer Creek watershed - Clover, Miners, and, in particular, Spencer. These diminished watershed conditions have led to all 3 creeks being 303(d) listed (Clean Water Act (CWA)) for the following reasons (or "Criteria for Listing"):

- Clover Creek: *Habitat Modification; Sediment*
- Miners Creek: *Sediment*
- Spencer Creek: *Biological Criteria - Benthic Macroinvertebrates; Habitat Modification; Sediment*

Johnson Creek, the headwaters of which lie partially in the JCPWA portion of the Buck Lake allotment, is also 303(d) listed for high *summer water temperatures*.

These water quality problems, as analyzed in the two watershed analyses, are largely a function of the disturbances on the uplands; thus the references to water quality in this section. (See Standard 2 for more information on Riparian/Aquatic conditions.) Pages 4-18 to 4-92 of the SCPWA - *Terrestrial Ecosystem* - *Vegetation Section* (4-18 to 4-76) and *Landscape Section* (4-76 to 4-88) - extensively analyzed the upland conditions. Some pertinent summary excerpts, by section in the SCPWA, follow:

> *Rangelands* (p. 4-74): As a general statement, current grazing levels within the majority of the watershed are within appropriate levels and are not contributing to or aggravating significant ecological condition problems. The amount of forage made available from opening up the timber stands far exceeds what is necessary for the number of cattle grazed, especially within the Grub Springs allotment portion of the watershed. It appears also, that the use of shrubs in both the upland and riparian areas is not a problem in this watershed. Where there are problems in upland areas, they are little related to current grazing.
>
> *Soil Productivity* (p. 4-83): It is likely that some losses in soil productivity have occurred in the watershed from recreational activities and timber harvest including road building. The losses are mainly due to compaction and displacement. The lower portion of the watershed (private lands) has likely seen

the most reductions in productivity, due to the level and type of activity and the presence of soil types that are at a higher risk of productivity losses from compaction.

Late Successional Forest (p. 4-88): Mid- to late-successional forests have been reduced in the watershed from the historic level of 60 to 70 percent to the current 30 to 40 percent. The largest contiguous blocks of late-successional forest are located in the wilderness area and upper portion of the watershed on federal land. On federal lands, 25 percent of the watershed is presently classified as late-successional, which is above the 15 percent threshold of the Northwest Forest Plan. Whereas historically late-successional forests were fragmented by lightning fire patterns, presently, late-successional forests are fragmented due to ownership patterns and different forest management treatments. This has resulted in disruptions of connectivity of late-successional forest.

The analysis in the SCPWA shows that much of the current aquatic problems are directly attributable to past forest harvest and particularly, the related road work (again, the aquatics are mentioned here because most of these activities have been on the uplands). This is evidenced by sediment being the primary 303(d) listing factor for all three of the creeks within the Spencer Creek watershed. The SCPWA (p. 4-150) states that - “There are more than 150 road crossings and 23 miles of road within 100 feet of the stream channel. In many areas, roads are routing waters and sediment into the channel...”. Most of these roads are on private lands. Recent information indicates that many of these private roads, as well as those on USFS and BLM administered lands, have been closed and restored, significantly improving the sediment problem.

In addition, the extensive meadow/riparian modifications and intensive livestock grazing on the private Buck Lake have been a major factor in the less than optimum Spencer Creek conditions, as Buck Lake is the primary source for its water. Similar to the road problem noted above, there have been recent changes in management on Buck Lake - in particular the construction of many miles of internal fencing - that has reduced, or is leading to a reduction of, sediment from this area.

Grazing, at levels practiced in past years, probably contributed significantly to the currently diminished upland conditions in the lower (private) portions of the watershed. These lower portions were settled first (1860's-70's) and inevitably received heavy historical grazing use due to its open pine/grass nature. However, current grazing use is a fraction of what occurred historically and is not thought to be a significant factor to present watershed health.

Both of these allotments were ranked as to management priority in 1982, with a re-ranking in 1988 - both done by the Medford District prior to transfer. The process at that time ranked the allotments based on 5 rating criteria. The 1982 process found the following:

Buck Lake Allotment (1982):

#1 - Range Condition: Not a factor ("C" ranking)
#2 - Forage Production Potential: Production is moderate to high & present production low to moderate. ("I" ranking)
#3 - Resource Use Conflicts: Serious conflicts or controversy exist. ("I" ranking)
#4 - Economic Returns: Opportunities exist for positive economic returns. ("I" ranking)
#5 - Present Management: Satisfactory. ("M" ranking)

The overall final management category was "I". However, during the re-evaluation in 1988, #3 was changed to - "Limited conflicts or controversy may exist" ("C" ranking); #4 was changed to "No opportunity for positive economic returns" ("C" ranking); and #5 was changed to "Satisfactory or is only logical practice" ("C" ranking) - with a recommended category of "C" overall. Both rankings note the land is "transitory timber harvest ground" and that "present management was satisfactory". It was noted also in 1988 that "range condition unsatisfactory", though no reason stated.

Grub Spring allotment (1982):

#1 - Range Condition: Not a factor ("C" ranking)
#2 - Forage Production Potential: Production is moderate to high & present production low to moderate. ("I" ranking)
#3 - Resource Use Conflicts: Serious conflicts or controversy exist. ("I" ranking)
#4 - Economic Returns: Opportunities exist for positive economic returns. ("I" ranking)
#5 - Present Management: Unsatisfactory. ("I" ranking)

The overall final management category was also "I". However, during the categorization re-evaluation in 1988, #3 was changed to - "No serious conflicts or controversy" ("M" ranking); #4 was changed to "No opportunity for positive economic returns" ("C" ranking); and #5 was changed to "Satisfactory or is only logical practice" ("C" ranking) - with a recommended category of "C" overall. These rankings also note the land is "transitory timber harvest ground" and that the BLM consists of "small acreage within large private holdings". The 1988 revision noted that "riparian habitat in unsatisfactory condition", but gave no specifics, though it may be assumed it pertained to Clover Creek based on another note to the file.

The Grub Spring allotment was utilization checked in 1987 by range personnel out of the Medford office (M. Ford and T. Nevius) when under their administrative authority. The observations at that time correlate well with those observed more recently. The small scale utilization pattern map done in September 1987 showed all the BLM administered lands in the "light" use zone with most of the use ("moderate" and "heavy") on the private lands in the lower portions of the watershed. Specifically, the notes to the file mention the following for the BLM lands:

"*I looked at the...public land and found them to have very little grazing value...The recently logged or younger aged plantations of course had higher percentages of grasses and shrubs. These areas however were dominated by logging practices and not livestock grazing...Livestock appeared to be making only slight use of these areas...Clover Creek appeared to support more in the way of riparian areas, and meadows. A narrow riparian area* (near the gravel pit just off the "Hook-up" road)*...was found that appeared to be in fair to poor condition. It does not appear that the dominant impact was provided by livestock...Grazing on public lands occurs within the allotment, however the BLM lands appear to be dependent on forestry practices to provide grasses. Therefore little grazing potential or impact can be related to livestock."*

These minimal impacts have been evidenced further by a utilization pattern map of the entire watershed prepared in 1994 (which included all of the Grub Spring and Buck Lake allotments) and utilization spot checks made since then. These utilization checks have shown consistently slight to no use on the vast majority of the uplands - public or private. Current upland vegetation community conditions are not being affected by the limited grazing use; they are a function of past and present forest harvest practices. As stated in the JCPWA (p. 122), "The seral stage of forested acres is not the product of grazing but of forest management."

In summary, the monitoring/observational information collected to date show that livestock grazing use on the Buck Lake and Grub Spring allotments, as currently practiced, is not causing impacts significant enough to affect the future attainment of this Standard. In addition, current overall non-grazing related BLM management activities, as directed by the NFP and SCPWA and related policy and guidance, appear to be moving conditions towards future attainment.

STANDARD 2 - WATERSHED FUNCTION - RIPARIAN/WETLAND AREAS

(Riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and land form.)

Though this Standard is currently not being totally met, overall BLM management (grazing and non- grazing management) is making significant progress toward meeting it on the public portions of the Buck Lake and Grub Spring allotments. BLM licensed livestock use is not considered a significant factor. This Standard is thought to be met for the Long Lake allotment.

A. Buck Lake and Grub Spring Allotments

As noted in the discussion for Standard 1, the SCPWA was driven by a set of 16 issues. Several of these issues address this Standard to some degree; they are as follows (SCPWA, page 4-3 - using that documents numbers):

Issue 2: Forage utilization patterns in the watershed are uneven.
Issue 12: Wetlands, riparian and meadow ecosystems in the Spencer Creek watershed have been altered.
Issue 15: Channel condition has degraded.

Issue 12, and to some degree Issue 2, are the ones most pertinent to this Standard as they are the ones which could be most directly affected by BLM authorized livestock grazing management. As noted previously, the conditions of Spencer Creek were the primary motivator behind the SCPWA and the on-going CRMP efforts. Pages 4-126 to 4-170 of the SCPWA address the above issues relative to riparian/wetland conditions. Specifically, they are as follows: *Riparian Ecosystem - Riparian Areas* (4-126 to 4-138) and Aquatic *Ecosystems - Aquatic Resources* (4-139 to 4-170). Some pertinent summary excerpts, by section in the SCPWA, follow:

> *Riparian Areas* (p. 4-129): The riparian function of the Spencer Creek watershed has been negatively impacted by roads, stream side harvest, and grazing. Shading has been reduced in confined reaches by timber harvest. Shading and bank stability has been reduced below potential in unconfined reaches by loss of steam side vegetation and stream widening. Additionally, the loss of Buck Lake as a functioning wetland has accelerated delivery of water and fine sediments into Spencer Creek.
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> *Riparian Areas* (p. 4-135 to 4-136): It is uncertain what the extent of the riparian and wetland vegetation was historically relative to present. It is known, however, that riparian condition has been degraded... Historically, one of the most extensive still water habitats in the watershed was Buck Lake. The alteration of this lake through draining and grazing has likely impacted the abundance and distribution of several amphibian species... The level of sedimentation contributed by roads and grazing, and increased water temperatures in Spencer Creek have likely been factors affecting the abundance...of amphibians... Some meadow habitats within the Spencer Creek watershed have been over utilized by cattle. Some of these meadows are currently in poor habitat condition relative to the requirements of voles... (Note: None of the above summary in the SCPWA applied to BLM managed lands; but rather, dealt with either private lands - primarily Buck Lake - or several meadow areas on USFS managed lands. Management of these lands is beyond the scope of this assessment. See SCPWA pages 4-131 to 4-132.)
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> *Aquatic Resources* (p. 4-165): *Channel Condition* - The two conditions of concern are the delivery of fine sediment from the road system and Buck Lake, and the alteration in scour processes from the removal of large woody debris.
>
> *Aquatic Resources* (p. 4-165)*: Altered Habitat and Fish Communities* - Three changes in habitat condition were determined to be chronic and problematic for

native fish in Spencer Creek; fine sediment, high temperature, and low flows. The significant causal mechanisms for a downward trend in habitat condition are road crossings, stream side timber harvest, and channelization and grazing at Buck Lake.

Both the Buck Lake and Grub Spring allotments are relatively low priority in the KFRA, being "C" category - or custodial - allotments under the KFRA ROD/RMP, Appendix H. However, some rangeland monitoring studies have been performed due to heightened interest in the area because of the CRMP efforts and the SCPWA process. Both of the allotments were utilization pattern mapped in 1994, a particularly dry year with sub-par forage production. Given the poor growing conditions of that year, it would be predicted that in normal or above normal growth years (which we have had since 1994) we would have less problem areas than noted in 1994; and there were only a few areas of concern noted. The following discussion will explore those areas of concern and observations made since then. It will also go over what management changes have been effected since the SCPWA was completed.

On the Grub Spring allotment, the utilization pattern mapping indicated there were probably few if any problem areas on BLM administered lands. The only potential area indicated for future monitoring was approximately ½ mile of Spencer Creek above the "Hook-up" road (T38S, R6E, Section 27, SESW and Section 34, NENW). This area constitutes a widening of the creek bottom land with a well established and good condition shrub/riparian vegetation community dominated by Douglas spirea, various sedges and grasses, and some willows (in order of abundance). Due to its accessible nature and decent forage conditions, this area holds some attraction for cattle.

In 1994, the area had moderate use with some small patches of heavy utilization on grasses, though little use of the dominant shrubs. The overall use was in the light range (30-35%). This area was particularly attractive to mid-summer cattle use due to the extremely dry conditions of that year. However, this level of use is considered tolerable if not experienced with any consistency. As noted on the October 1994 utilization memo, "...banks were stable, the plant communities were still there and in good shape. It is not recommended that this level of use be maintained indefinitely, but likewise it appeared to cause no lasting harm. This years use was atypical due to the dearth of water in other areas causing the cattle to concentrate to an unusual degree on select riparian areas...As evidence that the area is not generally overused is the PFC rating, which implies proper use has been the rule in recent history...".

Informal utilization checks since 1994 have shown typically less use. In 1999 - an average growth year - the overall utilization was slight (<10-15%) with most of the use made by elk (grasses) and deer (willows). In addition to the use checks, photos were taken in 1994 and again in 1999. These photos, though not quantitatively comparable, show that the riparian shrubs are getting thicker and/or more numerous. In addition, the grazing lessee is conscientious about moving his cattle from the important riparian areas - particularly Spencer Creek - to the uplands numerous times during critical times

in late summer.

A “Proper Functioning Condition” (PFC) rating was also done in June of 1994 for the BLM portions of Spencer Creek. This effort rated both sections of the creek on public land as “PFC” - the northern (largely inaccessible to livestock) portion as “PFC” with “upward” trend, and the southern portion (discussed above) as “PFC” with the trend “not apparent”. (It was noted that there was substantial sediment from upstream, private land activities, but on the BLM portions large wood was deficient.) In 1997, the BLM portion of Miners Creek was rated and broke down as follows: 0.4 mile “PFC” with no trend noted; 1.6 miles “Functional - at Risk”, with 0.8 mile “upward” trend and 0.8 mile of trend “not apparent”; and 0.4 mile “Nonfunctional” with trend “not apparent”. (This latter rating noted that the nonfunctional portion had very limited cattle access due to steep slopes and the rating was non-livestock based, but rather was due to historical logging activities that have resulted in little tree cover, limited wood in the channel, and lack of riparian species.) In 1998, the BLM portion of Clover Creek was rated as follows: 0.5 mile “Functional - at Risk” with “upward” trend and 0.1 mile as “Nonfunctional” with no trend noted. None of the PFC rating forms note that livestock use was relevant to the ratings - good or bad. The forms did note other reasons for less than optimum conditions - lack of large woody debris, road construction, and channelization, in descending order of apparent importance.

On the Buck Lake allotment, several grazing related problem areas were noted during the past monitoring efforts, though they were limited in size. Specifically, the drier areas immediately adjacent to Tunnel Creek (though mostly private) received heavy use in 1994. Also, the extreme upper end of Johnson Creek, just below the Surveyor Campground received “high moderate use” in the small meadow/willow areas adjacent to the springs and creek. Though this latter use level is acceptable on the uplands, it was more than desired for this riparian/wetland area. In 1997, a PFC determination was made on the BLM portions of both creeks. Johnson Creek was found to have 2.0 miles in “PFC”, with the trend not noted, and 0.2 miles of “Functional - at Risk” with “upward” trends. Tunnel Creek had 0.1 mile in “PFC”, with no trend noted. The 1995 KFRA ROD/RMP designated Tunnel Creek as a “Special Botanical/Habitat Area” and the old growth forest adjacent to the Surveyor Campground area as a “environmental education area”.

Due to the monitoring observations and the special status of these riparian areas, both areas were recently fenced. Tunnel Creek, including the upper private portion to the west, was fenced in 1996; Surveyor Campground and the Johnson Creek headwaters were fenced in 1997. The Surveyor fence has performed well in protecting the enclosed area due to its ability to be put down for the winter and put back up in the spring (high tensile wire construction). However, the Tunnel Creek fence was built as a relatively conventional barbed wire/steel post fence and is variably damaged every winter by the areas heavy snow load. Thus, this fence has not been effective in precluding livestock use, though the BLM portion of the meadow area is almost always too wet for extensive grazing use. In 1999, the fence did not preclude livestock grazing

at all leading to the following, quoted from the utilization field check (9/28/99) notes:

> *"The west end (private portion) was used heavily with the use diminishing rapidly as one moves to the east and north towards Buck Lake. It appeared from a distance (too wet to walk in) that most of the BLM portion was used lightly at most. Much appeared unused. As with Spencer Creek it appears...that the shrub component in Tunnel Creek meadow was much denser than it was in 1994...".*

The Tunnel Creek fence is currently being considered for reconstruction funding (see the Proposed Management Changes section at the end). Until the time that the fence has integrity, some grazing will occur within the fenced area. However, the BLM administered portions will probably not receive substantial use as noted above.

Conversely, the Surveyor exclosure fencing has effectively removed grazing from the areas inside. This fencing, however, forces that use to different areas outside the fence. The 1999 field check (9/30/99) noted the following about the grazing to the south of the fenced area:

> *"The upper end of Johnson Creek, to the south of the Surveyor exclosure fence, was inspected... There was variable evidence of cattle use but was overall light with some spots of moderate. No particular damage was evident and the further "upstream" one goes on the "east fork"* (section 27) *the less the evidence of cattle use. Some of the herbaceous grazing was by elk also... There was little use at the pond along the road* (NENW Section 28) *and more than a dozen small trout were spotted in the pond..."*.

It appears that this slight shift of the grazing use has not been detrimental, though it bears keeping an eye on in the years to come, to ensure that unacceptable damage does not occur on the still unfenced riparian areas.

In summary, the monitoring information collected to date show that livestock grazing use on the Buck Lake and Grub Spring allotments, as currently practiced, is not contributing to non-attainment of this Standard. Also, the current overall non-grazing related BLM management activities, as directed by the NFP and SCPWA and related policy and guidance, are apparently moving conditions towards future attainment.

B. Long Lake Allotment

This 363 acre parcel of BLM administered lands lies within Long Lake Valley - a very narrow, closed basin, tucked in between two steep ridges with no surface drainage to the outside. As noted earlier, the BLM parcel is entirely "landlocked" by surrounding private lands and is not close to any other BLM administered lands. Since the parcel has always been a very low priority for BLM management, there is little information on

the area. It appears that the entire section (T38S, R8E, Section 30), in which the 363 acres lies, used to be BLM administered - as well as a couple small parcels to the north. Since, that time these other lands have apparently been transferred (sold or traded?) into private ownership, as they are not listed as BLM.

In July of 1982, the allotment was ranked as to management priority based on "professional judgement" (the ranking form does not specify if a field visit was involved). The process at that time ranked the allotment based on 5 rating criteria. They were as follows:

#1 - Range Condition: Unsatisfactory ("I" ranking)
#2 - Forage Production Potential: Production is moderate to high & present production low to moderate. ("I" ranking)
#3 - Resource Use Conflicts: Limited conflicts or controversy may exist. ("C" ranking)
#4 - Economic Returns: Opportunity may exist for positive economic returns. ("M" ranking)
#5 - Present Management: Satisfactory or is only logical practice. ("C" ranking)

The recommended overall final management category was "M' - for "maintain", implying that conditions were adequate and/or management could make little change. Thus, continuance of the then current management was recommended and followed. Two categorization processes since that time - a 1988 "Categorization Update" done by the Medford District and the KFRA ROD/RMP process - both ranked the allotment as "C" category. The 1988 process was an update of the 1982 ranking. It was similar, except that for "#1 - Range Condition", it was given an "C" ranking for the range condition "not a factor - small acreage" and the final ranking was "C". This recognized the limited management opportunities and control on this allotment, which has not changed. (The KFRA ROD/RMP process apparently carried forward the 1988 rankings.)

According to a 4/14/87 monitoring inspection of the allotment (the only actual on-the-ground observational data in the allotment file) the majority of the parcel was called "flooded grasses". The vegetation composition, by percent cover, was estimated at that time as follows : 25-35% tufted hairgrass, 30-40% sedge (red top and meadow sedge), 5-15% forbs, and 20-30% bare ground. With the exception of the relatively large amount of bare ground, these figures would indicate a relatively good condition meadow (discussed later). Production was not estimated, probably due to the time of year the parcel was visited - mid April. The bare ground may also have been a function of the time of year that the observation was made - before any new growth was evident and the residual herbage from the prior year would have been "beat down" by the winter snows and ice.

This same 1987 inspection report, though short, made several other comments about the perceived use and conditions on the parcel. They are as follows:

(The parcel)...*is within a meadow type area, being mostly flooded in winter months and almost completely dry during the summer...Trampling is prominent throughout, with heavy grazing pressure evident...Adjacent private ground appears to have received a little less livestock use than the BLM land as no litter accumulation is evident. The site is in poor condition, however, improvement could be accomplished by later turn out and lighter stocking levels.*

During this same field visit an "Apparent Trend Rating" form was filled out. Virtually all the categories on the form were checked as "down", meaning soil and vegetation conditions were perceived as in a downward trend at that time.

During 1992 or 1993, the KFRA botanist (Lou Whiteaker) visited the parcel during late spring or early summer, in search of the listed plant (endangered) *Astragalus applegateii*. That plant was not located on the parcel and the soils were thought to be too clay dominated to support the species. The area was noted (from memory) to have good vegetation conditions with an adequate stand of native sedges, grasses, and forbs. His impression of the property was that cattle did make use, but that due to the distance from the private ranch at the south end of Long Lake, cattle made sporadic and largely appropriate (non-detrimental) use of the BLM parcel.

All the above information prompted a recent visit (2/15/00) to look at the parcel, which found the entire area inundated with 6-12"+ of water/ice, though some residual herbaceous material was evident poking through the water and ice. (This visit was performed by Bill Lindsey and Dana Eckard. The parcel itself was largely inaccessible due to snow, though could be viewed easily with binoculars from the ridge above and to the southwest approximately 3-400 yards.). Actual vegetation conditions were not possible to positively determine though ample residual ground cover was evident.

All the above information leads to several related questions. The first question is if the conditions are (or ever were) as "poor" as the 1987 notes imply or if that evaluation was a reflection of the time of year observed. Related to this, is if the conditions were subpar, have they improved since that time? Also, if the conditions are still indeed "poor", what could be done about it, given the awkward management logistics for the parcel?

Kovalchik's "Riparian Zone Associations - Deschutes, Ochoco, Fremont, and Winema National Forests" (USDA-FS, PNW Region publication R6 ECOL TP-279-87) lists a "Tufted Hairgrass Association" (MM19-12) with a general description of the Potential Natural Vegetation as follows:

Tufted hairgrass is dominant over other graminoids and forbs and is distributed uniformly throughout the stand (canopy cover is generally more than 30%)... Because of variation in soil moisture and elevation, tufted hairgrass meadows have a high degree of species diversity... Sedges...are common on moist

portions of the association.

The previously discussed 1987 estimate of tufted hairgrass abundance in Long Lake was 25-35% with the various sedges totaling 30-40% - implying a structure similar to Kovalchik's late seral community description. Under the section on Estimating Potential on Disturbed Sites, is the following:

> *Many tufted hairgrass meadows are in mid seral or better ecological status and can be identified on the basis of vegetative composition alone. Where the association is in early seral status, the site potential has often been altered to communities dominated by Kentucky bluegrass on drier sites and Nebraska sedge or Baltic rush on moist sites.*

None of these species were identified in 1987, though could have been present and not noted due to the time of year. However, it is assumed that they were probably in low abundance.

One last bit of related information are the ecological site descriptions for *Major Land Resource Area (MLRA) D-21 - Klamath and Shasta Valleys and Basins* (SCS 1989, as amended). Included, is a "Wet Meadow" site description (021XY406OR) which could be considered an alternative version of the tufted hairgrass association. It states the potential natural community is 85% grass/grasslike dominated, with tufted hairgrass making up 50-65% and other grasses, sedges, and rushes making up the remainder. The site description also states that with "...overgrazing, tufted hairgrass decreases and becomes co-dominant with other grasses, sedges and forbs. Baltic rush, sedges or reedgrass become more dominant, with large colonies of arnica, and silverweed occurring on the more mesic sites...". Since the 1987 estimate implied co-dominance with the sedges, this would indicate that some grazing related community structure changes may have occurred.

However, given all this information and the vegetation observations from past years, it appears that the plant community is likely in reasonably good condition and probably functional given it closed basin nature. The community is apparently still dominated by preferred native perennial grass/grass-like species in reasonably "correct" proportions, with moderate deterioration indicators like Baltic rush and Kentucky bluegrass not evident, or at least abundant. The few recent field observations imply that if conditions were poor, they may have improved in recent years. Even if conditions were not fully satisfactory, the ability to effect change on this parcel is low due to: poor access; its isolated, surrounded by private land nature; and the high difficulty in building and maintaining a boundary fence in these clay dominated, seasonally saturated soils. It could be easily argued that this is a parcel of land that should be transferred to private ownership, if possible.

In summary, the sketchy existing information indicates that the parcel is not in poor

condition and that this Standard of riparian/wetland functionality is probably being met. However, some further field checking would be useful to ensure this is accurate. (See the management recommendations section at the end of this document.)

STANDARD 3 - ECOLOGICAL PROCESSES (Healthy, productive and diverse plant and animal populations and communities appropriate to soil, climate and land form are supported by ecological processes of nutrient cycling, energy flow and the hydrologic cycle.)

Though this Standard is currently not being totally met, overall BLM management (grazing and non- grazing management) is making significant progress toward meeting it on the public portions of the Buck Lake and Grub Spring allotments. BLM licensed livestock use is not considered a significant factor. This Standard is thought to be met for the Long Lake allotment.

A. Buck Lake and Grub Spring Allotments

As noted in the discussion for the previous 2 Standards, the SCPWA was driven by a set of 16 issues. Several of these issues address this Standard to some degree; they are as follows (SCPWA, page 4-3 - using that documents numbers):

Issue 5: Forest/Range ecosystem health and resiliency has been altered in the watershed area.

Issue 6: Existing and recruitment levels of large dead standing and downed woody material have been altered.

Issue 10: Late successional forest in the watershed has been fragmented and reduced in size through harvest.

Issue 16: Management practices have altered habitat conditions and caused changes in species assemblages, connectivity, and distribution.

This standard is largely addressed by the data, analysis, and discussions for the other Standards - particularly Standards #1, #2, and to some degree, #5. SCPWA issues 5, 10, and 16 were discussed under Standard 1 and Issue 6 and 16 will be discussed under Standard 5. Chapter 4 of the SCPWA - "Issues, Key Questions, and Analysis" - contains exhaustive information and analysis directly pertinent to the addressing of the Standard on ecological processes - terrestrial, riparian, and aquatic. Reference the SCPWA, pages 4-18 through 4-170, for specific information. However, a primary determination of the SCPWA was that livestock grazing on public lands, as currently practiced (BLM permitted), is not contributing to the probable non-attainment of full ecological functioning. Instead, that analysis found that past forest harvest activities (public and private) are the primary causative factor behind the current non-attainment.

As noted on page 6 of this assessment, the SCPWA determined that the vegetation

and soil conditions have been altered significantly during historic times; to the point that the watershed is not thought to be functioning as it should or used to be. This includes the uplands, riparian/wetland, and aquatic ecosystems where these alterations have lead to diminished capabilities for many of the major attributes of a fully functioning ecosystem. However, management activities on BLM administered lands, both grazing and non-grazing, are required by the NFP - as refined by the SCPWA - to enhance and restore ecosystem function. Recent management changes include riparian fencing, elaborate riparian buffering schemes within timber treatment areas, road restoration efforts, lighter impacting timber harvest techniques, special status species inventories and subsequent protective buffering, and other restorative activities. In addition, a host of similar activities have been implemented on the extensively intermingled private lands. In summary, all BLM management activities are directed towards the eventual meeting of this Standard - to the extent BLM management activities can effect change.

B. Long Lake Allotment

The discussion under Standard 2 for this allotment essentially covers everything known about this BLM parcel. It is believed that ecological processes are functioning adequately, or at least we do not know that they are not. (See management recommendations section at the end of this assessment.)

STANDARD 4 - WATER QUALITY (Surface water and groundwater quality, influenced by agency actions, complies with State water quality standards.)

This standard is not being met - BLM licensed livestock are not significant contributors on the Buck Lake and Grub Springs allotment. This Standard is not particularly applicable to the Long Lake allotment due to it being in a closed basin.

A. Buck Lake and Grub Spring Allotments

As noted in the discussion for the previous Standards, the SCPWA was driven by a set of 16 issues. Several of these issues address this Standard to some degree; they are as follows (SCPWA, page 4-3 - using that documents numbers):

Issue 12: Wetlands, riparian and meadow ecosystems in the Spencer Creek watershed have been altered.
Issue 13: Water quality has been altered in Spencer Creek watershed.
Issue 14: The hydrograph has been altered in terms of base flow, peak flow, and timing of peak flow.
Issue 15: Channel condition has degraded.

As discussed under Standard 1, the three major drainages within the Spencer Creek

watershed (Miners, Clover, and Spencer Creeks) and Johnson Creek, in the Jenny Creek watershed, are all 303(d) listed. This Standard was extensively addressed in the SCPWA, pages 4-139 through 4-170. Some pertinent references from that analysis are as follows:

> *Aquatic Resources* (p. 4-143): ...Throughout the mainstem of Spencer Creek, temperature, during critical times of the year, exceeds State of Oregon Water Quality Standards for salmonid bearing streams. The exceedance of the temperature standard may be related to two major management changes in the watershed; increased disturbance of the riparian zone due to management practices and the draining and water diversion channeling of Buck Lake for livestock grazing.
>
> *Aquatic Resources* (p. 4-148): ...approximately 24 percent of the watershed is in equivalent clearcut areas. There has been a reduction in transpiration resulting in greater water availability to the stream channel, but the presence of the brush component and capacity of the soil to absorb the increase in water partly compensates for this. The road system and draining of Buck Lake are determined to be the most influential in modifying peak flows. As a result, changes to the magnitude of peak flows is most evident on those years when spring rains add to the snow melt process. Conversely, with the addition of the drainage network in concert with the draining of Buck Lake, it is reasonable to assume that the timing of peak flows occur earlier. A reduction in base flow has most likely occurred as a result of the draining of Buck Lake.
>
> *Aquatic Resources* (p. 4-153): Roads in the Spencer Creek watershed are the largest contributor to fine sediment input....
>
> *Aquatic Resources* (p. 4-165): If recent practices in the management of the upland and riparian areas continue, Spencer Creek and associated tributaries will not meet State of Oregon Water Quality Standards for salmonid bearing streams in the Klamath Basin...Based on invertebrate community indicators, impacts are apparent from high summer water temperatures and fine sediment in Spencer Creek. Fine sediment alone probably limits aquatic productivity in Miners Creek...
>
> Three changes in habitat condition were determined to be chronic and problematic for native fish in Spencer Creek; fine sediments, high temperature, and low flows. The significant causal mechanisms for a downward trend in habitat conditions are road crossings, streamside timber harvest, and channelization and grazing at Buck Lake...

As noted throughout this assessment, management activities on BLM administered lands, both grazing and non-grazing, are required by the NFP - as refined by the SCPWA - to enhance and restore ecosystem function. This should lead to better water

quality. As noted previously, recent management changes include riparian fencing, elaborate riparian buffering schemes within timber treatment areas, road restoration efforts, lighter impacting timber harvest techniques, special status species inventories and subsequent protective buffering, and other restorative activities. In addition, a host of similar activities have been implemented on the extensively intermingled private lands. In summary, all BLM management activities lands are directed towards the eventual meeting of this Standard - to the extent BLM management activities can effect change on their minority land ownership in the area.

B. Long Lake Allotment

The discussion under Standard 2 for this allotment essentially covers what is known about this BLM parcel. It is thought that water quality in the area is not being affected in any way by the limited BLM management activities, including the grazing use. Being a closed basin, there is no surface water running out of Long Lake, so any effects are all contained within the valley and only affecting, or being affected, by the surrounding private lands. Effects on ground water are not known, but thought to be nil. (See management recommendations section at the end of this assessment.)

STANDARD 5 - NATIVE, T&E, and LOCALLY IMPORTANT SPECIES (Habitats support healthy, productive and diverse populations and communities of native plants and animals (including special status species and species of local importance) appropriate to soil, climate and land form.)

Though not totally met on the Buck Lake and Grub Spring allotments, significant progress is being made towards meeting this Standard. Livestock are not significant contributors to current non-attainment. This Standard is thought to be met on the Long Lake allotment.

A. Buck Lake and Grub Spring

Wildlife issues were a primary component of the SCPWA, because wildlife was a driving reason behind the preparation of the NFP (i.e. spotted owls and their old growth habitat requirements.) SCPWA issues pertinent to this Standard are as follows (SCPWA, page 4-3 - using that documents numbers):

Issue 5: Forest/Range ecosystem health and resiliency has been altered in the watershed area.

Issue 6: Existing and recruitment levels of large dead standing and downed woody material have been altered.

Issue 7: Habitat for Federally listed, proposed or candidate species, State listed species, USFS Region 6 Sensitive species and BLM Special Status Species of plants has been altered.

Issue 8: Past and present land use activities may be contributing to the introduction, spread, and increasing density of exotic/noxious plant species.

Issue 9: The density of roads in the watershed is negatively affecting wildlife.

Issue 10: Late successional forest in the watershed has been fragmented and reduced in size through harvest.

Issue 11: The size and distribution of cover patches (versus the size of openings) is inadequate for big game.

Issue 16: Management practices have altered habitat conditions and caused changes in species assemblages, connectivity, and distribution.

This Standard was extensively addressed in Chapter 4 of the SCPWA (p. 4-18 to 4-170); particularly in the *Wildlife Section* on pages 4-93 through 4-125. See that document for the information that fully explores the information and analysis relative to this Standard. Some of these wildlife related issues have also been addressed under the discussions for other Standards. However, some pertinent references from the SCPWA are as follows:

Terrestrial Ecosystem - Vegetation (p. 4-38-39): Late successional stands have decreased through harvesting...Only 2.5 percent of the remaining late successional stands occur on private lands, the rest are located on federal lands...Because many of the federal lands within the watershed have only been partially cut in the past, some of the stands classified as mid seral and all those classified as late seral in this analysis presently contain functional late successional structural components, such as large live trees, large snags, large downed logs, and sufficient canopy closure.

Special Status Plant Species (p. 4-62): The populations of special status species, other species of interest, and plant communities of interest appear to be stable. Little is known about the Survey and Manage species at this time. Many of the species and/or communities are reserved in lands allocated as wilderness, Riparian Reserves, and future disturbance in unlikely. Further surveying for and monitoring of these species should improve management recommendations in the future. (Note: S&M surveys have been ongoing since completion of the SCPWA and have resulted in refined management and additional protection of areas containing S&M species.)

Noxious Weeds (p. 4-75): Many plant species and communities of concern have been affected by human activities. Changes in environmental conditions and the introduction of species can result in changes of species composition and distribution of both individual species and plant communities. Noxious weeds can affect the ecological processes that maintain native plant communities.

Management actions are needed that are designed to reduce the level of disturbance usually associated with these activities, and designed to mitigate the impacts already present from past activities.

Late Successional Forest Dependent Species (p. 4-102): Fifty-five late-successional forest dependent species have been documented or have the potential to occur within the watershed...Unmapped Late Successional Reserves, the (BLM) protected buffer areas around unmapped Late Successional Reserves, and Riparian Reserves combined, comprise 5.5 percent of the watershed...these reserves are not sufficient to provide connectivity corridors...for some terrestrial species...

Spotted Owl (p. 4-109): ...The decrease in quantity of late-successional forest in the red fir zone has most likely decreased the availability of suitable nesting sites. In the mixed conifer zone, fire exclusion has helped create a broader landscape pattern of multiple-canopied stands with thick understories, thought to be suitable spotted owl habitat...Of the thirteen spotted owl activity centers know to be occupied since the 1970's, nine have been active within the last three years...The loss of occupancy...is most likely due to habitat alteration and fragmentation as a result of harvest...

Ponderosa Pine Associated Species (p. 4-121): The ponderosa pine forests within the watershed have changed considerably from historic conditions due to timber harvest and fire exclusion...It is estimated that the extent of forest dominated by ponderosa pine has been reduced from approximately 25,000 acres in 1945 to 8,500 acres currently. Very little of this is late-seral...Without active management for the maintenance of large ponderosa pine and restoration of the recruitment potential for young pine, the wildlife species dependent upon this tree species will not be provided for within the watershed... (Note: The majority of the ponderosa pine potential areas are on privately owned timberlands.)

Deer and Elk (p. 4-124): The Spencer Creek watershed provides summer range for black-tailed deer and both winter and summer range for the Cascade Herd of elk. Currently, the distribution of cover and forage are not advantageous for deer and elk, although the elk seem to be less affected by the pattern of distribution than do the deer. Cover is most deficient in the lower portion of the watershed (private lands)...

As the above indicates, the current non-attainment of this Standard has little to do with the limited livestock grazing on BLM administered lands in the watershed. Instead, it is a function of the past timber harvest practices, particularly on private lands. As noted many times in this assessment already, the NFP - as refined by the SCPWA - directs all management activities on BLM administered lands towards restoring ecosystem functionality. One of the primary yardsticks of progress in doing this, is the health of the

various wildlife populations which are either adequate now or the trends are upwards.

B. Long Lake

Little is specifically known about wildlife relative to this BLM parcel. It is known to be used by waterfowl and other wet meadow related birds, due to its nature. It is also inevitably used by local deer and elk populations. This Standard is assumed to be met, because we have no information indicating otherwise. (See proposed management changes section below.)

Current Management and Recent Management Changes

Current management for each allotment was briefly explained in the beginning of this assessment. All three of these allotments are relatively low in priority and thus, don't have complicated management schemes. Also, what changes in grazing related management that have been made in recent years (e.g. fencing) were covered in the body of the narrative.

Proposed Management Changes

The SCPWA proposed or suggested an extensive array of "Restoration Opportunities", "Management Considerations", and "Information and Monitoring Needs" covering a wide array of resources and concerns - for both public and private lands. See pages 5-1 to 5-45 of that analysis for complete information. A summary of the grazing management related proposals, relevant to the BLM administered lands, are brought forward into this document and listed below (SCPWA pages 5-24 to 5-28). Some have already been completed, and such is noted. Some additional ones have been added based on more recent information and this assessment.

A. Grub Spring allotment

1. **Pursue development, with (UST) of up to three additional water sources on the upland portions of the allotment**. These water sources could be on either public or private lands. No additional water sources have been developed since completion of the SCPWA. However, the lessee for this allotment recently (3/6/00) suggested a potential location for one of these sources on BLM administered lands. This opportunity is expected to be pursued over the next year for feasibility.

2. **Investigate the need for riparian fencing on critical portions of Spencer Creek and/or Miners Creek**. Monitoring field checks since completion of the SCPWA have not indicated a need for such fencing at this time on BLM administered lands. If future observation show otherwise, this option would be pursued at that time.

3. **Periodically monitor and evaluate the grazing use**. Some additional information has been collected for this allotment since completion of the SCPWA. That information, as discussed and evaluated earlier in this assessment, has not shown the need for any changes in grazing management at this time. The vast majority of the use on this allotment occurs on private lands leased by UST.

4. **Increase the "herding" of cattle out of important riparian areas**. Monitoring and use supervision information indicates that the lessee does enough herding now to keep the riparian utilization within acceptable levels. No additional herding is thought necessary at this time.

5. **Complete an Ecological Site Inventory (ESI) for the BLM lands within the allotment**. The ESI would be a comprehensive vegetation survey of the primary grazing portions of the allotment (not a forest inventory) that could assist in setting more specific range vegetation objectives, by classifying the current vegetation relative to the potential. However, due to the low priority of this allotment and the expense of such a survey, it may not be completed in the foreseeable future.

B. Buck Lake allotment

1. **Fence the Tunnel Creek meadow/swamp areas as a separate riparian pasture**. This was completed in 1996. However, the fence as constructed is detrimentally affected (i.e. trashed) by winter snows and can not be easily maintained. A funding proposal is currently before the Ecosystem Restoration Office (Klamath Falls) for reconstruction using a high tensile design that can be let down in the fall, after grazing, and put back up in the spring, before grazing. This same type fencing has been used on the Surveyor with excellent success.

2. **Periodically monitor and evaluate the grazing use**. Some additional information has been collected for this allotment since completion of the SCPWA. That information, as discussed and evaluated earlier in this assessment, has not shown the need for any changes in grazing management at this time. As noted earlier, the areas just outside the Surveyor campground fence need periodic monitoring to ensure overuse on riparian/wetland areas does not occur chronically.

3. ***Fence the north boundary (BLM/USFS) of the allotment for enhanced livestock control. Also investigate opportunities to combine the Buck Lake allotment with the USFS allotments for rest-rotation grazing management purposes***. Observations and agency inclinations since completion of the SCPWA have not lead to either of these recommendations being implemented or needed. These are still possibilities for the future, but are not critical to area

grazing management at this time.

4. **Complete an Ecological Site Inventory (ESI) for the BLM lands within the allotment**. The ESI would be a comprehensive vegetation survey of the primary grazing portions of the allotment (not a forest inventory) that could assist in setting more specific range vegetation objectives, by classifying the current vegetation relative to the potential. However, due to the low priority of this allotment and the expense of such a survey, it may not be completed in the foreseeable future.

C. Long Lake allotment - Since this allotment has limited resource information for it, it is recommended that at least one late summer or early fall field check be made of the parcel to determine current conditions. This should include an estimate of current vegetation composition, using the ESI method. This check should be made in the next several years, manpower allowing, though its priority for attention would have to be weighed against other priorities at the time (i.e. the myriad of other similar allotments that are to be assessed over the next 7-8 years). Since it is a low priority "C" category allotment with minimal opportunities for management actions due to its isolated nature (isolated by private lands), there may be little that could be effectively done if problems are found. It is thought, however, that conditions are adequate and that the potential for irreversible damage is limited due to its nature. If administratively possible, it is recommended that this parcel be sold or traded for lands more manageable by the BLM.

Contributors/Reviewers	**Title**
Bill Lindsey	Rangeland Management Specialist
Dana Eckard	Rangeland Mgmt. Spec./Riparian
Lou Whiteaker	Botanist
Gayle Sitter	Wildlife Biologist
Larry Frazier	Supervisory NRS

Determination

( ) Existing grazing management practices and/or levels of grazing use on the Spencer Creek PWA allotments promote achievement or significant progress towards the Oregon Standards for Rangeland Health and conform with the Guidelines for Livestock Grazing Management.

( ) Existing grazing management practices and/or levels of grazing use on the Spencer Creek PWA allotments will require modification or change prior to the next grazing season to promote achievement of the Oregon Standards for Rangeland Health and conform with the Guidelines for Livestock Grazing Management.

Field Manager, Klamath Falls Resource Area

Date